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**CERAMIC WIRING BOARD**

Patent Number: JP9298368  
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Applicant(s): NGK SPARK PLUG CO LTD  
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**Abstract**

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**PROBLEM TO BE SOLVED:** To facilitate the downsizing, and dissolve inconvenience such as accidental phenomena, fixing to the setter, blackening, etc., and besides reduce the cost, by forming a resistor inside a board, in a ceramic wiring board which has a resistor having RuO<sub>2</sub> for its main component at one part of the wiring.

**SOLUTION:** A ceramic wiring board 10 consists of ceramic insulating layers 11d, 11b, 11a, and 11c consisting of alumina borosilicate glass composite glass ceramic of four layers each 0.25mm thick. In the inner layers 11a and 11b out of these insulating layers, RuO<sub>2</sub> resistor via holes 16, 200 $\mu$ m in diameter, and AG conductor via holes 17a are made, and also at the surface layers (outer layers) 11c and 11d, an Ag-Pd conductor via holes 17b are made. Also, between the insulating layers 11a and 11c and 11b and 11a, Ag inner wirings 18a are made, and between the insulating layers 11b and 11d, Ag-Pd inner wirings 18c are made. By such formation, the cost reduction and downsizing can be made easily.

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